

In re Patent Application of:  
DUESTERBERG ET AL.  
Serial No. 10/727,735  
Filed: 12/04/2003

REMARKS

Claims 1-21 are pending in this application.

Claims 1, 5, 8, 12 and 13 are rejected under 35 U.S.C. 102(b) as being anticipated by Ecker et al. (US patent 5,241,614).

Applicant has cancelled these claims without prejudice.

Claims 2, 3, 4, 6, 7, 9-11, 14-18 and 20-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ecker et al.

Applicant has cancelled claims 2-15 and 18-21 without prejudice.

Claims 16 and 17 have been amended.

The Examiner has objected to informalities in the claims. The Applicant would like to thank the Examiner for pointing these out and corrections have been made to the remaining claims in this application.

The Examiner points out that the limitations of claim 1 are disclosed by Ecker et al. However, it is noted that Ecker et al. does not discuss the problem associated with providing a length of metallized fiber that is suspended in air in the presence of a high powered optical signal. Ecker et al. appears to simply apply solder in two locations as is required to attach an optical fiber.

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The Examiner also points out that although there is the absence of language to lessen or minimize "heating that would otherwise occur in the presence of a high intensity light from the laser passing therethrough", Ecker et al. meets the claimed structural limitations, and thus the disclosed fiber appears also to meet the functional limitation of lessening or minimizing heating that may occur.

Regarding claims 16-18, Ecker et al. is said not to expressly disclose the length of the soldered and unsoldered portions, or of the metallized and unmetallized portions. The Examiner asserts that it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the claimed dimensional specifications, since it has been held that discovering optimum values or results only involves routine skill in the art.

In col. 5 of the '614 Ecker et al. patent the following text is found:

"FIG. 2 illustrates an exploded view of the element of the optical fiber mounting assembly 20, which provides for optical fiber penetration through the side seal of the frame 14. The multifiber cable 25, is shown with a segment stripped to expose a suitable length of the clad optical fiber 23. A portion of the clad segment of the optical fiber is metallized in two places 37, and 77. This distance between the two metallized locations 37 and 77 is predetermined so as to permit stress relief after assembly to the retainer 51 and the seal frame 14. The metallization at locations 37 and 77, is done primarily to securely attach or bond at least a portion of the optical fiber to a component of the optical fiber

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mounting assembly 20, and a V-groove in a V-block respectively.... The metallized segment 37, of the optical fiber 23 is soldered to a ferrule 39. The ferrule 39, in turn at this point could be soldered to the shoulder 26, of the stress relief sleeve 24."

It becomes evident after reading the paragraph above, that the two metallized regions 37 and 77 are provided to permit stress relief and is done primarily to securely attach or bond at least a portion of the optical fiber to a component of the optical fiber mounting assembly 20, and a V-groove in a V-block respectively. There are no considerations of heat dissipation mentioned and no mention of high powered laser light potentially damaging the fiber. Coincidentally, Ecker et al. and the instant invention have something in common. A portion of clad optical fiber is metallized in two regions; however, for apparently very different reasons. The Applicant acknowledges that the structure provided by Ecker et al. by "happenstance" provides some benefit over having a clad optical fiber continuously metallized over its entire length.

It is clearly not the Applicant's intention to have a claim examined and allowed which is not allowable. Furthermore, it is not the Applicant's intention to acquire an exclusive right in an invention, which was previously disclosed in a citeable reference.

Notwithstanding, it is the Applicant's view, that limitations discovered regarding the length of the solder band, along the clad fiber are inventive and provide a solution to a problem that appears not to have been contemplated by Ecker et al. There is simply no mention of

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the problem of heating due to too long a length of metallized fiber along the fiber coupled to a laser. The Applicant discovered this problem and discovered a particular solution to obviate this problem. With knowledge of the deleterious effects of too long a coating along the length of the clad fiber, one may have done experiments and calculations to determine optimum values. However this is no teaching or suggestion within Ecker et al. of this problem. In fact, there would be no reason to consider this in view of Ecker et al.'s focus on the purpose of his structure; "the two metallized regions 37 and 77 are provided to permit stress relief and is done primarily to securely attach or bond at least a portion of the optical fiber to a component of the optical fiber mounting assembly 20, and a V-groove in a V-block respectively."

The Applicant believes that the preferred embodiment of his invention is patentable in view of Ecker's teachings.

[12] In the specification the applicant demonstrates that if the length  $L_1$  of a metallized region is not soldered, damage can occur if the metallized unsoldered region is substantially greater than 0.5mm. ... In general as small a metallized region as possible should be provided while not jeopardizing a good solder bond, and as much of the length of the metallized region as possible should be soldered to prevent heat build up about the metallized region.

The Applicant is soldering a bonding pad on a platform to a band of solder on a fiber and is specifying that the excess

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metallized fiber extending beyond the pad or solder joint is no greater than a given fixed length.

Ecker et al. discloses solder, welding or epoxy as a means of affixing the metallized fiber to a v-groove. There is no mention or consideration to the issue of heat or the relationship between the solder joint and the metallized fiber that is unsoldered.

Claim 16 clearly delineates a condition that was not suggested by Ecker et al. Since Ecker et al. did not mention potential problems with high power optical signals damaging metallized optical fiber, he certainly didn't suggest a solution to such a problem. The Applicant has defined in claim 16 a structure wherein bounds or limits are placed on an unsoldered region on either side of a solder joint. It is not a simple matter of taking the teachings of Ecker et al. and optimizing. Ecker et al. makes no mention of the solder joint or issues related thereto. It is only after discovering the problem and the causes of the problem that one can begin to consider optimizing.

Although at first glance there are some similarities between Ecker et al.'s structure and Applicant's, claim 16 of the instant invention clearly delineates the differences. The Applicant's invention particularly solves the problem associated with high power lasers wherein too much unsoldered metallized fiber is present.

Claim 16 has been rewritten in independent form and is believed to be patentable.

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Claim 17 has been amended.

Claims 1-15 and 18-21 are cancelled without prejudice.

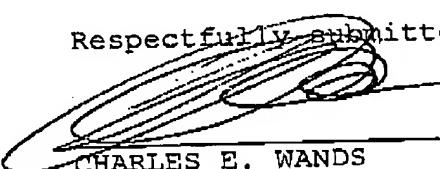
In view of the foregoing corrections and amendments to the claims, it is respectfully submitted that the instant application is now in condition for allowance.

Early and favorable reconsideration of the Examiner's objections would be appreciated.

Should any minor informalities need to be addressed, the Examiner is encouraged to contact the undersigned attorney at the telephone number listed below.

Please charge any shortage in fees due in connection with the filing of this paper, including Extension of Time fees, to Deposit Account No. 50-1465 and please credit any excess fees to such deposit account.

Respectfully submitted,



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CERTIFICATE OF FACSIMILE TRANSMISSION

I HEREBY CERTIFY that the foregoing correspondence has been forwarded via facsimile number 703-872-9306 to MAIL STOP AMENDMENT, COMMISSIONER FOR PATENTS, this 20 day of June 2005.

J. Kallmann